

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of

ENDOH et al.

Atty. Ref.: 900-397

Serial No. Unknown

Group:

Filed: August 10, 2001

Examiner:

For: A SEMICONDUCTOR MEMORY AND ITS PRODUCTION PROCESS

\* \* \* \* \*

August 10, 2001

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**PRELIMINARY AMENDMENT**

In order to place the above-identified application in better condition for examination, please amend the application as follows:

**IN THE CLAIMS**

Please substitute the following amended claims for corresponding claims previously presented. A copy of the amended claims showing current revisions is attached.

12. (Amended) A semiconductor memory according to claim 9, wherein the control gate and the gate electrode are disposed so closely that a channel layer located in a part of the island-like semiconductor layer opposed to the gate electrode is electrically connected to a channel layer of the memory cell.

14. (Amended) A semiconductor memory according to claim 9, wherein a plurality of memory cells are formed with regard to one island-like semiconductor layer, and an electrode for

electrically connecting a channel layer located in a part of the island-like semiconductor layer opposed to the gate electrode to a channel layer of the memory cell is further formed between the control gate and the gate electrode.

15. (Amended) A semiconductor memory according to claim 9, wherein all, some or one control gate(s) are formed of the same material as all, some or one gate electrode(s).

16. (Amended) A semiconductor memory according to claim 9, wherein the charge storage layer and the gate electrode are formed of the same material.

23. (Amended) A process according to claim 20, wherein the introduced impurity is diffused so that a continuous impurity diffusion layer is formed in the island-like semiconductor layer in a direction horizontal to a surface of the semiconductor substrate.

24. (Amended) A process according to claim 20, wherein a plurality of island-like semiconductor layers are formed in matrix, sidewalls of the island-like semiconductor layers are oxidized to form oxide films, and the oxide films are removed so that the width of the island-like semiconductor layers in one direction is smaller than a distance between the island-like semiconductor layers in the same direction.

25. (Amended) A process according to claim 20, wherein a third conductive film is formed between separated first conductive films.

26. (Amended) A process according to claim 20, wherein the first conductive film is separated into two or more separated first conductive films which are located so closely that a channel layer formed beneath a separated first conductive film along the island-like semiconductor layer is electrically connected to an adjacent channel layer.

27. (Amended) A process according to claim 20, wherein an insulating film is formed in a part of a surface of the island-like semiconductor layer, another insulating film is formed in another

part of the surface of the island-like semiconductor layer, and the first conductive film is formed on the insulating film and on said another insulating film.

**REMARKS**

The above amendments are made to place the claims in a more traditional format. Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "**Version With Markings To Show Changes Made.**"

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By:

*W. Warren Burnam, Jr.*  
H. Warren Burnam, Jr.  
Reg. No. 29,366

HWB:ms  
1100 North Glebe Road, 8th Floor  
Arlington, VA 22201-4714  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS**

12. (Amended) A semiconductor memory according to claim 9 [or 10], wherein the control gate and the gate electrode are disposed so closely that a channel layer located in a part of the island-like semiconductor layer opposed to the gate electrode is electrically connected to a channel layer of the memory cell.

14. (Amended) A semiconductor memory according to claim 9 [or 10], wherein a plurality of memory cells are formed with regard to one island-like semiconductor layer, and an electrode for electrically connecting a channel layer located in a part of the island-like semiconductor layer opposed to the gate electrode to a channel layer of the memory cell is further formed between the control gate and the gate electrode.

15. (Amended) A semiconductor memory according to claim 9[, 10, 12 or 14], wherein all, some or one control gate(s) are formed of the same material as all, some or one gate electrode(s).

16. (Amended) A semiconductor memory according to claim 9[, 10, 12 or 14], wherein the charge storage layer and the gate electrode are formed of the same material.

23. (Amended) A process according to [any one of claims 20 to 22] claim 20, wherein the introduced impurity is diffused so that a continuous impurity diffusion layer is formed in the island-like semiconductor layer in a direction horizontal to a surface of the semiconductor substrate.

24. (Amended) A process according to [any one of claims 20 to 22] claim 20, wherein a plurality of island-like semiconductor layers are formed in matrix, sidewalls of the island-like semiconductor layers are oxidized to form oxide films, and the oxide films are removed so that

the width of the island-like semiconductor layers in one direction is smaller than a distance between the island-like semiconductor layers in the same direction.

25. (Amended) A process according to [any one of claims 20 to 22] claim 20, wherein a third conductive film is formed between separated first conductive films.

26. (Amended) A process according to [any one of claims 20 to 22] claim 20, wherein the first conductive film is separated into two or more separated first conductive films which are located so closely that a channel layer formed beneath a separated first conductive film along the island-like semiconductor layer is electrically connected to an adjacent channel layer.

27. (Amended) A process according to claim 20 [or 22], wherein an insulating film is formed in a part of a surface of the island-like semiconductor layer, another insulating film is formed in another part of the surface of the island-like semiconductor layer, and the first conductive film is formed on the insulating film and on said another insulating film.